

**Central Modoc Resource**

**Conservation District**

*...to facilitate the sound management of our  
natural resources through local leadership.*

# *Restoration in the Pit River Watershed : Landowner-Led Cooperative Conservation*

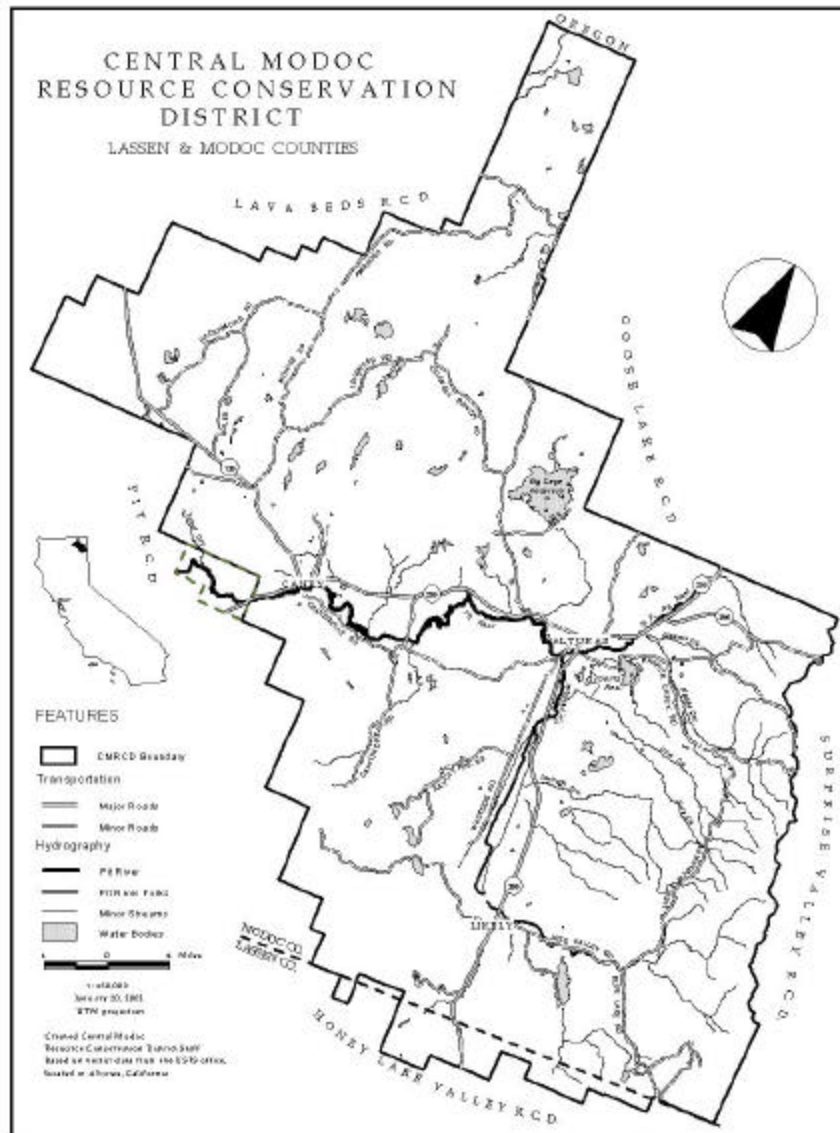
presented by Cliff Harvey  
CMRCD Watershed Coordinator

# Modoc County

## Location Map



**Central Modoc RCD  
lies in northeastern  
California, serving  
the headwaters  
of the Pit River**



**Central Modoc RCD  
seeks to improve  
water quality in the  
upper Pit river basin  
through three  
primary  
programs...**

- Education and Public Outreach

*To foster watershed stewardship*

- Watershed Monitoring & Assessment

*To objectively assess watershed conditions*

- Watershed Restoration Projects

*To develop and demonstrate*

*watershed solutions*



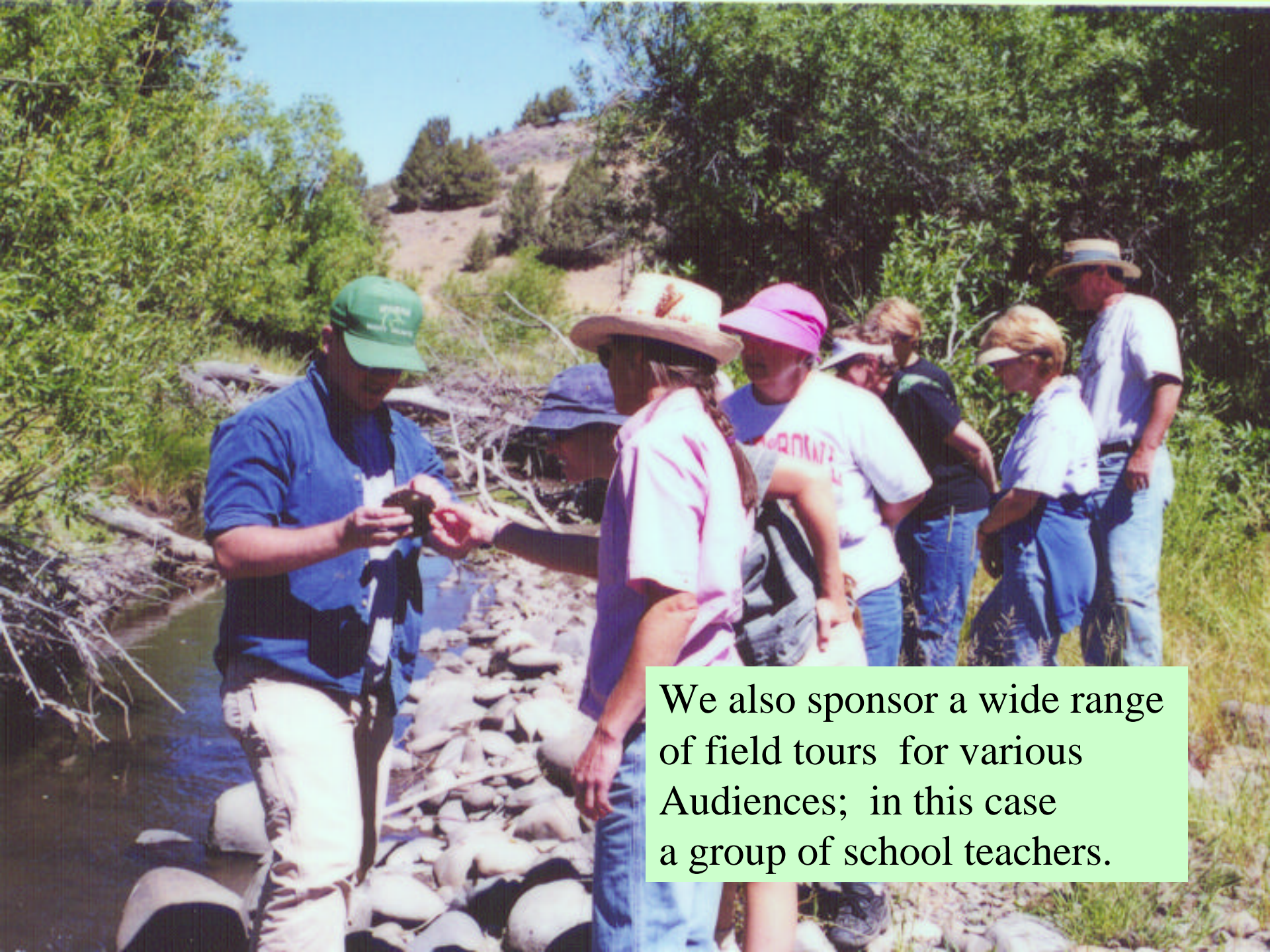
## Education and Public Outreach

*To foster watershed stewardship  
(The new native plants garden at the Central Modoc  
River Center is off to a good start)*



**The new exhibits are reaching  
a wide audience.**

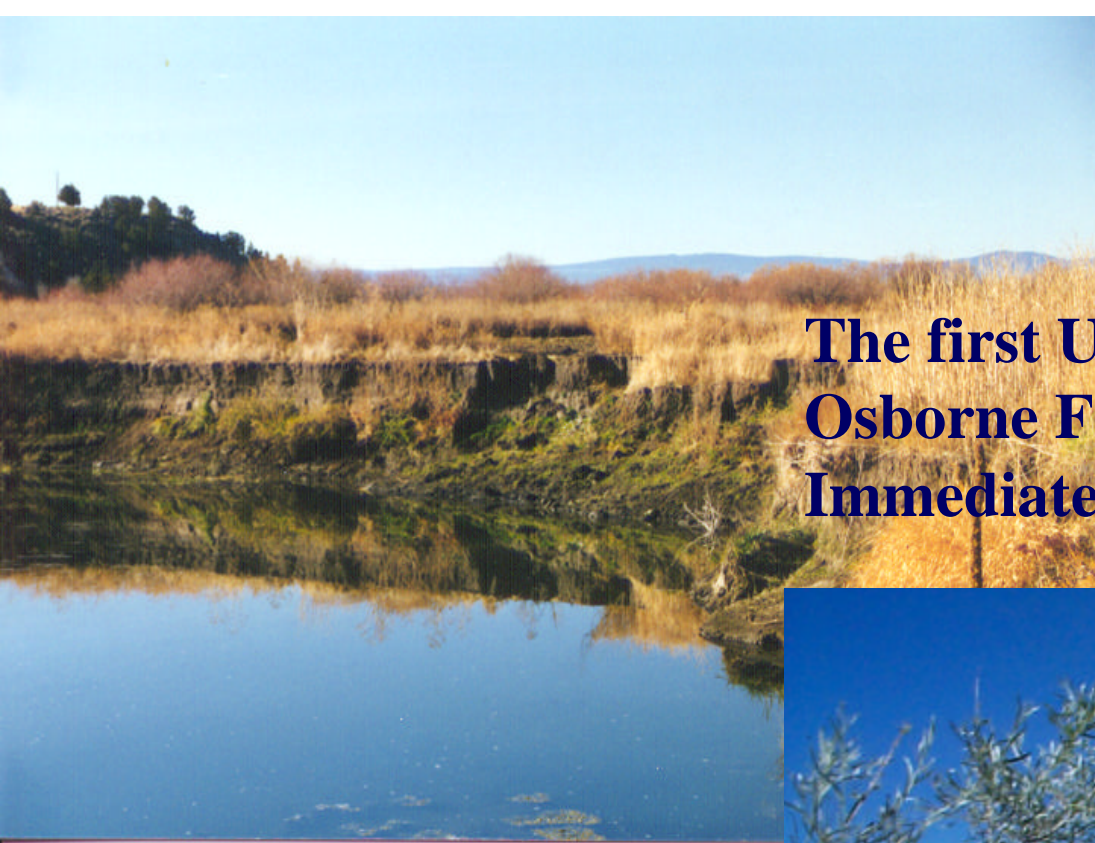




We also sponsor a wide range of field tours for various Audiences; in this case a group of school teachers.



**Our monitoring program helps landowners plan and implement conservation practices, and documents ecological trends.**

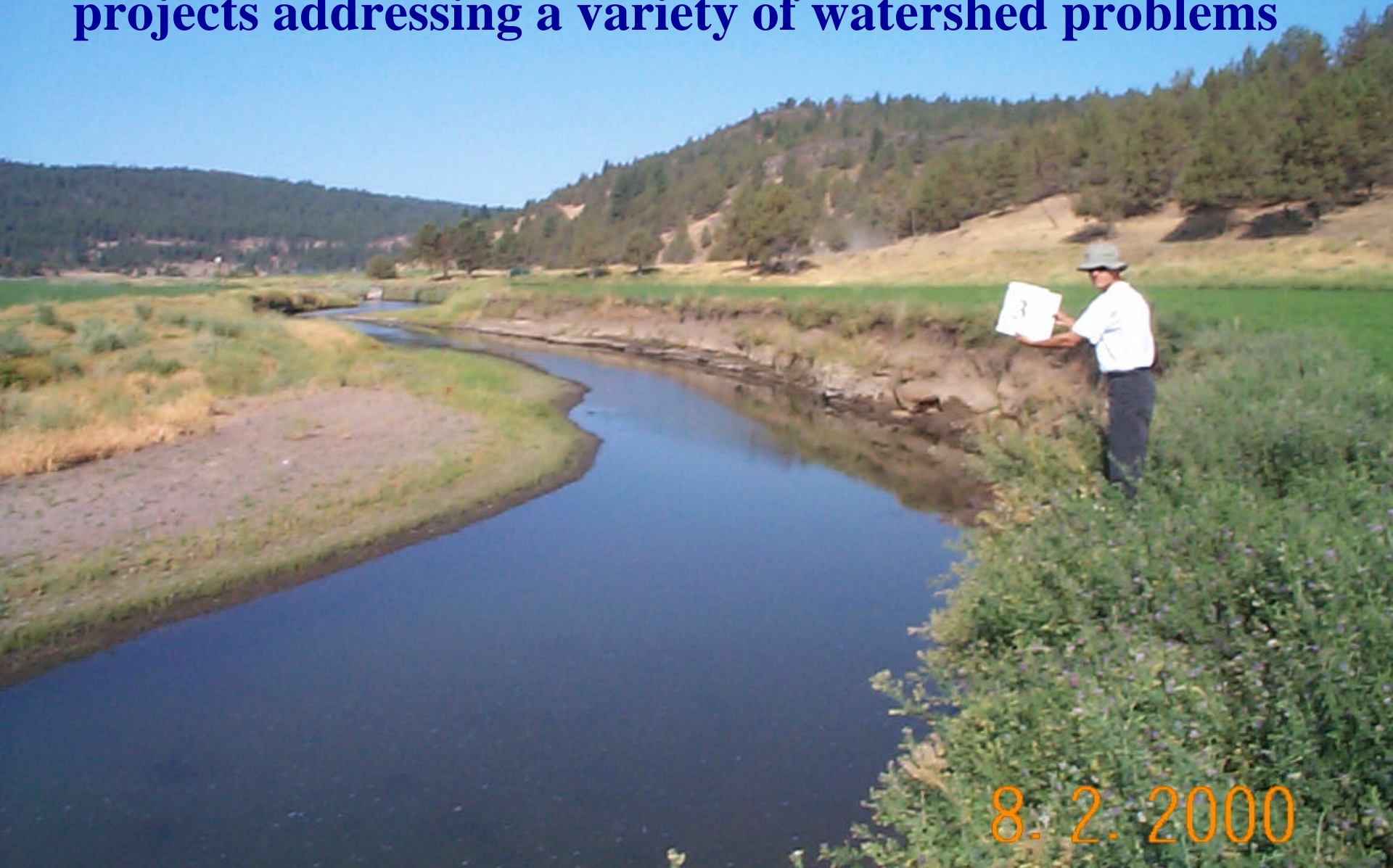


**The first UPRWEPP project site,  
Osborne Farms, North Fork Pit River  
Immediately before treatment, 1996**

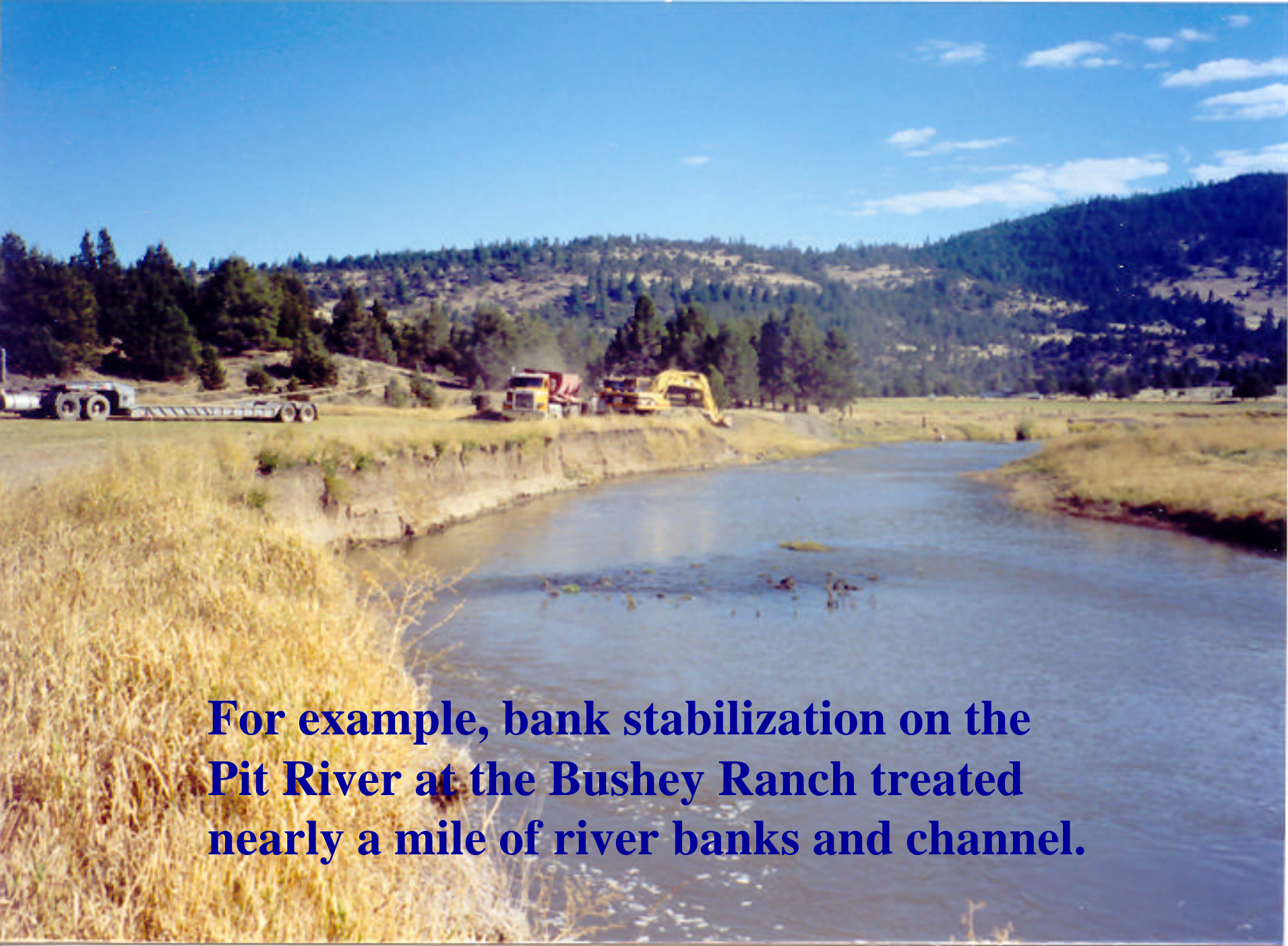
**Osborne Farms site,  
summer 2001  
Vegetated riprap  
now features  
well-established  
native willow growth**



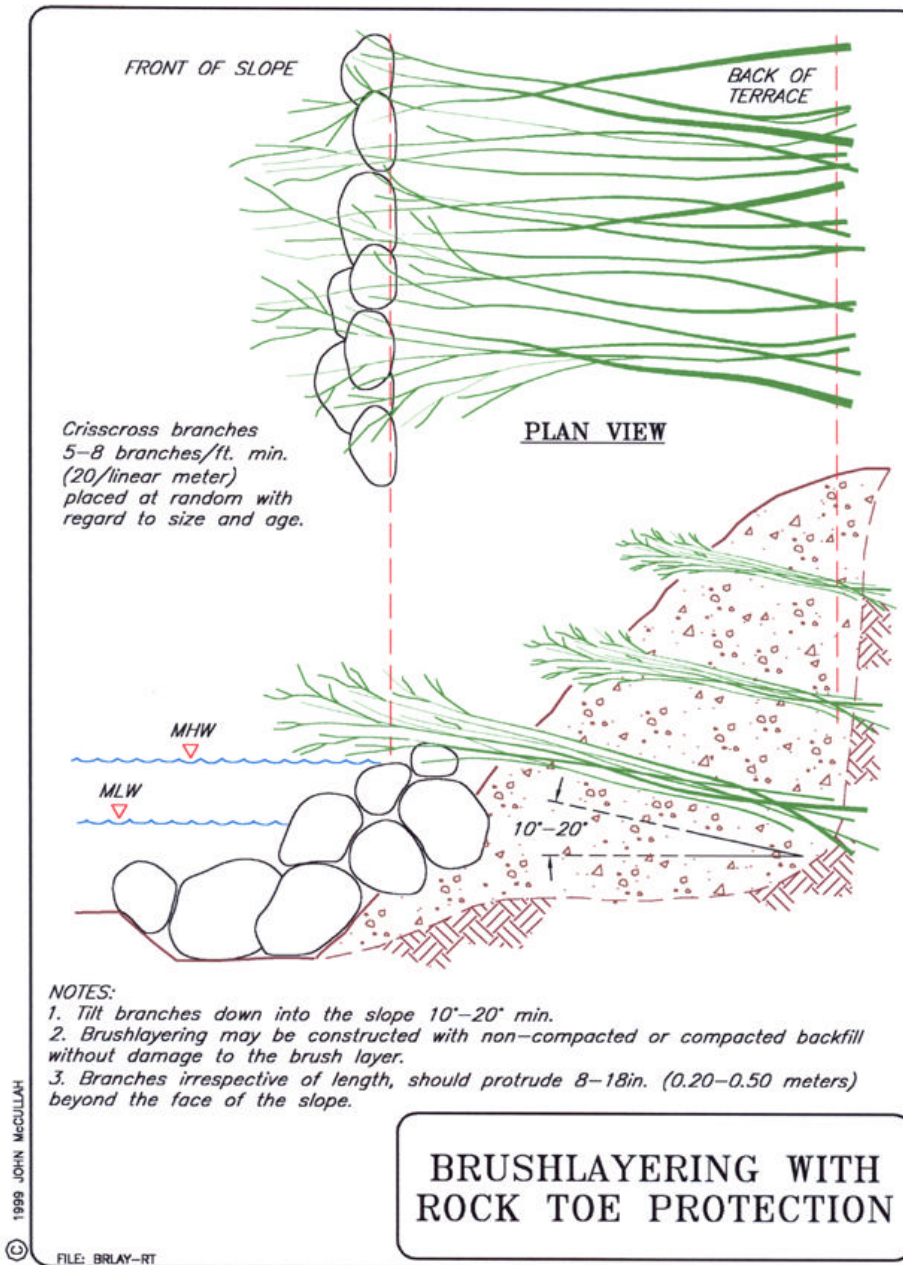
**Today, we are engaged in a numerous restoration projects addressing a variety of watershed problems**



8. 2. 2000



**For example, bank stabilization on the Pit River at the Bushey Ranch treated nearly a mile of river banks and channel.**



**Biotechnical  
treatments were  
prescribed for  
all sites,**









**Note new riparian fencing. Livestock management is a part of all of our projects.**



Mike Bushey (left) and  
Chris Bushey (below)



**The Bushey Project was a family affair, with thousands of dollars of in-kind and hard dollar contributions matching public funds.**



At Modoc National Wildlife Refuge, a reach was treated as a field exercise for a watershed restoration methods workshop





**Mid-way through first growing season,  
results are good. And the western pond  
turtles love the juniper toe revetment.**




**At Witcher Creek, a degraded meadow needed help... Note the new riparian fence.**

A photograph of a grassy field with a small stream. The stream is surrounded by tall, dry grass and some green vegetation. In the background, there are rolling hills with sparse trees and a herd of cattle grazing in the distance. The sky is overcast.

**Witcher Creek after 1 growing season.**



**Structures are now being installed to raise the water table, allow flood plain access, and improve fish habitat.**

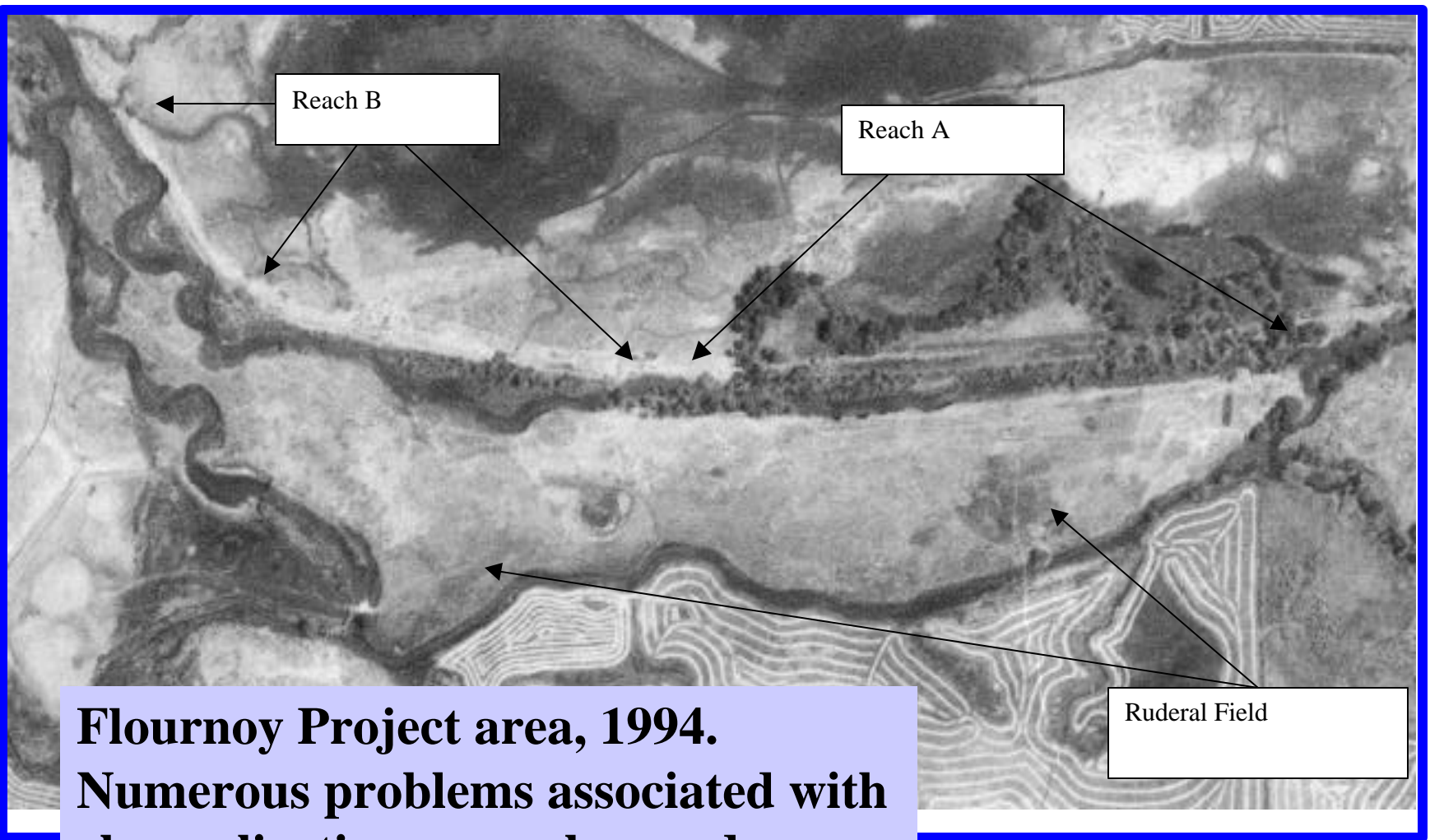
An aerial photograph showing a river meadow system. On the left, a large, calm reservoir is bordered by a dense forest of evergreen trees. A winding river channel flows from the reservoir into a vast, open meadow. The meadow is characterized by a complex network of smaller, interconnected water channels and wetland areas, interspersed with patches of dry, yellowish-brown grass. The overall landscape is a mix of water, green vegetation, and bare earth.

**Other meadows require more creative solutions,  
such as turner Creek... critical habitat for  
the endangered Modoc Sucker**



**Thousands of feet of sloughing banks  
are slated for biotechnical treatments in conjunction  
with a new grazing plan**

7.12.2000



**Flournoy Project area, 1994.  
Numerous problems associated with  
channelization were observed...**

## Reach A - Before Construction, Jan. 2001

Reach A.1

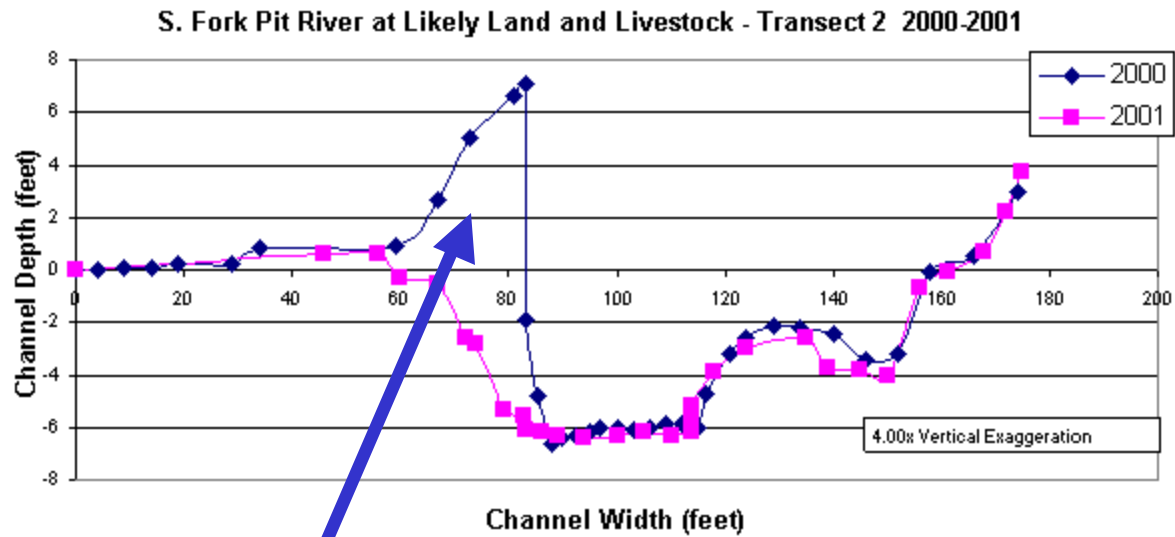


Reach A.2



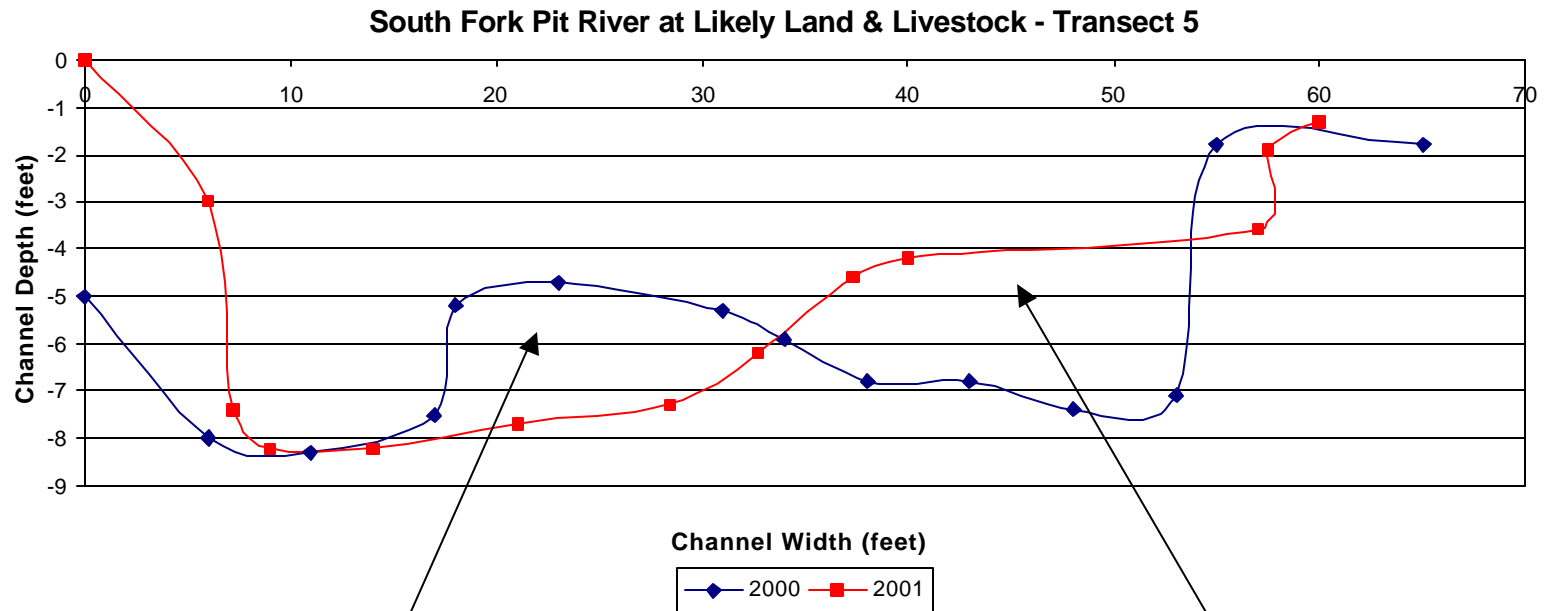


8. 3. 2000



**Relict levee removed Spring 2001**

Data source: CMRCD/UPRWEPP Monitoring Program  
CMRCD Staff



Mid channel depositional features were removed  
and new flood plain was created.



300 foot continuous  
willow wattle (live fascine)  
& live siltation



8. 3. 2000

Survival of  
plantings after two  
growing seasons is  
>95%. Proper  
planning along with  
Landowner concern,  
cooperation, and  
contribution are the  
key!

6. 25. 2001



LTSTP installed to form wetlands and flood plain while protecting the adjacent meadow.

Also note new water gap for winter feeding area.



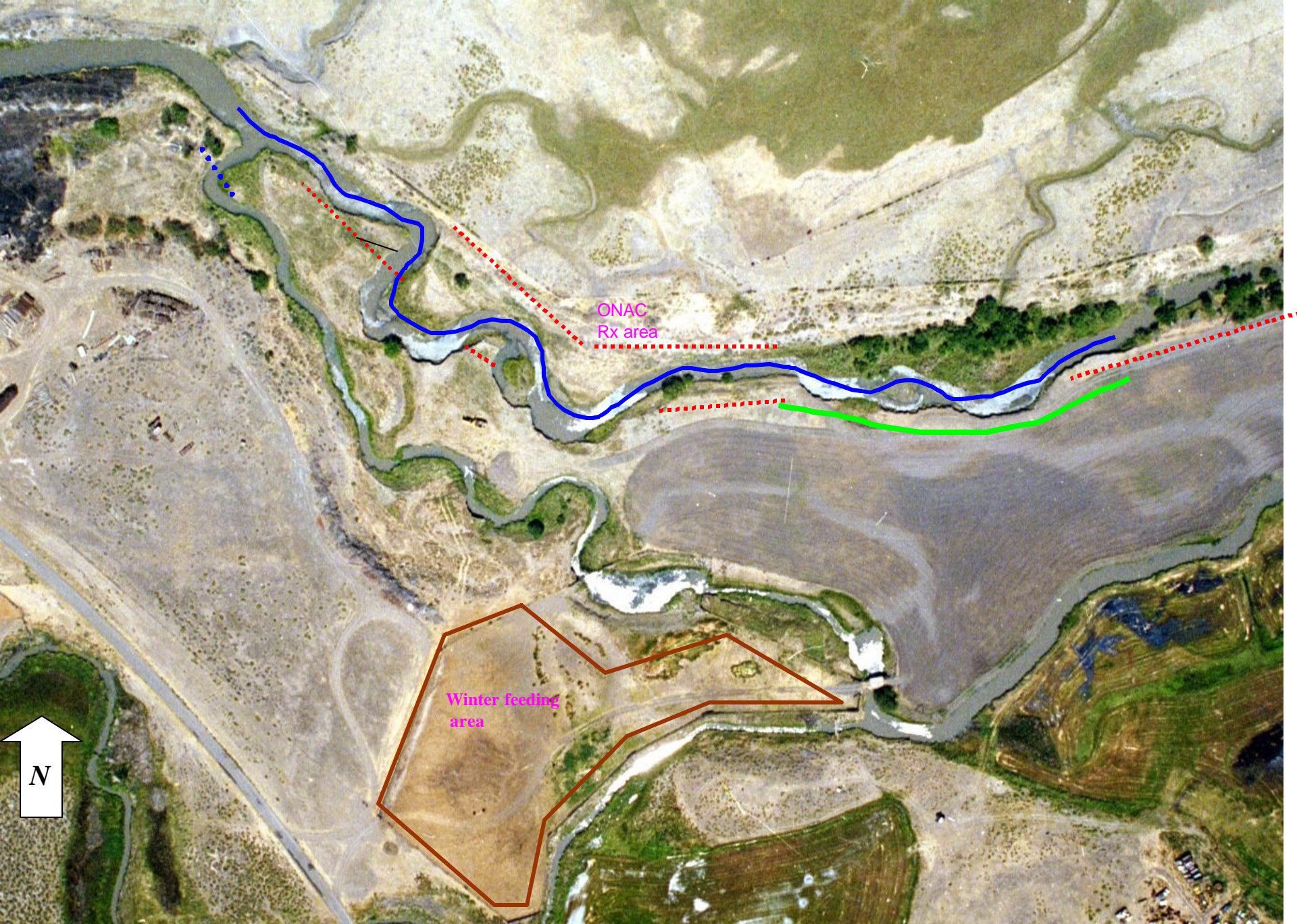
**Reach A is in place and  
a new 13 ac. field is in production.**





**The Flournoy Project Reach B  
created nearly 5 acres of flood  
plain and wetlands**





ONAC  
Rx area

Winter feeding  
area







9. 12. 2001







Nutrient uptake lagoons were developed from the back channel

An aerial photograph showing a river with a complex, meandering course. The river is dark blue, contrasting with the surrounding light brown and green floodplains. The floodplains are characterized by irregular, winding shapes, suggesting a natural or restored state. A red arrow points from a text box in the upper right to a specific location on the riverbank.

**Sandhill crane  
nest location,  
spring 2003**

**After treatment, high  
banks were gone, new  
flood plains were  
established, and  
feeding areas were  
isolated from the  
stream.**



## CENTRAL MODOC RESOURCE CONSERVATION DISTRICT

**We gratefully acknowledge:**

**Calif. SWRCB and Central Valley RWQCB**

**USDA – NRCS Alturas Field Office**

**Modoc County Office of Education**

**US Forest Service -Modoc National Forest**

**Bureau of Land Management – Alturas Field Office**

**U.S. Fish and Wildlife Service**

***and many other agency and business supporters for  
making these projects a success!***

**QUESTIONS?**



8.10.2001

